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ABSTRACT

The American College Testing Program's College Outcome Measures Project (COMP) Objective Test and Activity Inventory were administered to 93 Nazareth freshmen in fall 1980 and to 36 seniors in spring 1981. Results provided data on the actual level of student performance in relation to several key general education outcomes and comparisons of Nazareth students with groups at other institutions. They also indicated the amount of anticipated growth in certain student skills (in communicating, problem-solving, values clarification, functioning within social institutions, using science and technology, and using the arts) as a consequence of the college program. It was concluded that (1) Nazareth freshmen are slightly lower in entrance ability than freshmen in the norm group, but score close to the mean in all the specific areas measured by the study; (2) Nazareth seniors were also somewhat lower in entrance level ability than the senior norm group, but compared favorably in most areas with students in the reference group; and (3) significant growth is likely to occur for the freshmen who remain at Nazareth College for 4 years. (Author/MSE)

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Report on the Use of the
COMP Objective Test and
Activity Inventory

To

Assess Nazareth College General Evaluation Outcomes

Prepared by: Dr. Virginia Jones, SSJ
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February 1982

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Introduction

The American College Testing Service College Outcomes Measurement Project (COMP) Objective Test (Form III) and Activity Inventory (Form III) were administered to 93 Nazareth freshmen in the Fall of 1980 and to 36 Nazareth Seniors in the Spring of 1981. The results of this testing provided data concerning:

- 1) The actual level of student performance in regard to several key general education outcomes and comparisons of Nazareth students with groups at other institutions.
- 2) The amount of anticipated growth as a consequence of the college program. Both instruments measured growth in several key areas of general education which closely parallel the college's liberal arts and science expectations required for graduation. They are: Communicating, Solving Problems, Clarifying Values, Functioning within Social Institutions, Using Science and Technology and Using the Arts.

The following general conclusions were drawn:

- 1) Nazareth freshmen are slightly lower in entrance level ability than freshmen in the norm group, but, none-the-less, score close to the normative mean in all areas measured by the study. Therefore, Nazareth freshmen are average in their entering abilities in the general education outcomes measured.
- 2) Nazareth Seniors were also somewhat lower in entrance level ability than the senior norm group; however, in all but two areas Nazareth seniors compare quite favorably to the Senior reference group.
- 3) Significant growth in general education is likely to occur for the freshmen who remain at Nazareth four years.

BACKGROUND

In 1974, a major curricular revision occurred at Nazareth College which re-focused the college program from primarily liberal arts areas to a curriculum emphasizing development of human service professionals who are liberally educated. The new curriculum called the McGrail Plan, therefore has two equally important dimensions; professional development and the liberating arts and sciences (general education) component.

In order to evaluate the general education component of the curriculum, the research project was designed to obtain data that would describe, in objective terms, the degree of success the college is achieving in relation to the general education goals which were formulated by the college and translated into the liberating arts and science expectations required for graduation. In addition, the need for more subjective data supplied by students and alumni evaluating various aspects of the McGrail Plan and over-all satisfaction with the educational experience at Nazareth College was recognized and is reported in detail in separate documents.

One Major research question was developed to address these issues:

What degree of success is the College achieving through its general education program? This was then divided into two (2) sub points for further analysis. They are:

1. What is the actual level of student performance in regard to general education outcomes and how does this compare to similar groups at other institutions?
2. What amount of growth may be anticipated to occur as a consequence of the College program?

Method

In order to answer these research questions all students who were freshmen (93) in the fall of 1980 were required to complete the ACT COMP Activity Inventory during their first two weeks on campus and to submit the response sheet to the Activity Inventory at the time they were scheduled to take the ACT COMP Objective test. All 93 freshmen were tested at one time in one place by the research team.

In addition, all 1981 seniors who had attended Nazareth College for four years (36) were invited to take the ACT COMP Objective Test and Activity Inventory in March of their senior year. Twenty-five (25) seniors agreed to take the test and were paid \$10.00 each for their time and participation. The Activity Inventory was completed at home and submitted at the time of the Objective test. All seniors took the Objective test at the same time and were proctored by members of the research team.

The information from these instruments provided specific measures of student performance on six (6) educational outcomes which closely parallel those specified by the College (see Table 1). Comparison of Nazareth student scores with normative data derived from 130 other colleges and universities enabled us to assess the quality of the Nazareth program in relation to other institutions of higher education.

Table 1

ACT COMP Outcomes in Relation to McGrail Expectations

<u>ACT Outcome</u>	<u>McGrail Outcome</u>
Communicating	Communicating
Solving Problems	Approaches to Inquiry
Clarifying Values	Ethical Values and Religious Meaning
Functioning within Social Institutions	Social-Cultural Relations
Using Science and Technology	Approaches to Inquiry
Using the Arts	Creativity and Aesthetic Awareness

Data from each instrument was carefully analyzed by appropriate quantitative, statistical and descriptive techniques and conclusions reached are presented later in this report.

The Instruments Used

The Objective Test and Activity Inventory of the American College Testing Program (ACT) College Outcomes Measurement Project (COMP) were the instruments selected to help us determine the degree of success Nazareth College is achieving in relation to general education outcomes.

In 1976 ACT organized the College Outcome Measurement Project to design, develop, validate and distribute assessment tools and procedures that would measure and evaluate certain kinds of knowledge and skills that undergraduate students were expected to acquire as a result of general education. The knowledge and skills identified were those believed necessary for successful functioning in adult society by representatives of institutions and state agencies which ACT knew had invested time and effort in attempting to identify realistic competencies and outcomes. ACT staff took the suggestions of these academicians, did an extensive review of the literature and then worked with representatives to identify proposed domains for the 564 outcome statements generated. Six (6) domains were identified through this process: Communicating, Solving Problems, Clarifying Values, Functioning within Social Institutions, Using Science and Technology and Using the Arts.

Over 150 institutions have participated in the field testing of the three instruments designed as a result of the project; the Composite Examination, the Objective Test and the Activity Inventory. Questions in the Composite Examination and the Objective Test are based on realistic stimulus materials drawn from the adult public domain such as television documentaries, recent magazine articles, ads, short stories, art prints, music, discussions and newscasts. Both print and non-print stimuli are used and the response formats vary (short-answer, multiple-choice, self-report). While the Composite Examination (open-ended response format) and Objective Test (multiple-choice format) measure directly the ability of students to apply general knowledge and skills to problems and issues commonly confronted by adults, the Activity Inventory provides a self-report about the extent of participation in various out-of-class activities in each of the six (6) major outcome areas.

Research conducted by ACT during the field testing phase of the project produced a number of significant findings.

1. Student performance on the COMP Test battery appears to be unrelated to simple maturation and related to the educational programs of participating institutions.
2. The COMP Test battery measures abilities not measured directly by college grades or content-specific tests.
3. The COMP Test battery appears to measure abilities relevant to functioning in adult roles in society.
4. The Objective Test provides a quick and inexpensive way to estimate how groups of participants will perform on the Composite Examination.

5. The Activity Inventory measures the same general education knowledge and skills, but from a different perspective than the other two instruments.*

Since it was recognized that people do not communicate, clarify values or solve problems (process skills) without some content involved and likewise, these process skills are central to effective functioning with social institutions, using the arts and using science and technology, a two-dimensional matrix was developed to represent more realistically the integrated manner in which the six (6) Competencies are likely to exist within individuals. The COMP Matrix is:

	Using Science and Technology	Functioning within Social Institutions	Using the Arts
Communicating			
Solving Problems			
Clarifying Values			

This matrix is reflected in the scoring mechanism of each of the COMP instruments. The total score represents the scores on each sub-set of the test after the amount of inter-relationship has been factored out.

Results

Research Question #1:

What is the actual level of student performance in regard to general education outcomes and how does this compare to similar groups at other institutions?

In order to be able to analyze the results of this special COMP testing, it is necessary to consider the entering achievement levels of each sample, as measured by composite scores on the ACT General College Test. Norms for the Nazareth groups are then compared to specific reference group norms in order to make appropriate conclusions regarding the test results.

*For details of ACT research projects and results see COMP: Summary Report of Research and Development 1976-1980, ACT, Iowa City, Iowa, 1980.

Freshmen Data

Nazareth freshmen were somewhat lower in mean ACT composite score (18.1 to 19.8) than the major reference group which considered of 896 freshmen at the following 12 institutions which utilized the same form of the Objective Test: Bethel College, Cuyahoga Community College, Davis and Elkins College, Friends University, Mt. Saint Mary's College, Nebraska Wesleyan College, Nevsho County Community College, Oakland City College, St. Mary's College (MN), Seattle University, and Upsala College. It was therefore necessary for us to adjust the mean freshmen pattern on the Objective Test by five (5) percentile points in order to make the sample comparable to the reference group (the amount of necessary adjustment was indicated by ACT in their COMP report). Once the adjustment was made, Nazareth freshmen are quite close to the 50th percentile for the reference group based on 896 freshmen at 12 institutions. Figure 1 presents actual and adjusted means for the freshmen sample. Figure 2 presents the Activity Inventory scores of Nazareth freshmen in comparison with a reference group composed of 411 traditional age (17-19) freshmen at ten (10) institutions. These institutions are: Alverno College, Eastern Kentucky University, Iowa Wesleyan College, Maharishi International University, Michigan State, U.S. Military Academy, University of California-Los Angeles, University of Missouri-Columbia, University of Wisconsin-Green Bay and Webster College. It should be noted that Nazareth freshmen were again near the 50th percentile for freshmen in the reference group on all scales. Thus we can conclude that Nazareth freshmen demonstrate average entering level abilities in the six (6) general education outcomes measured by the study.

Senior Data

Nazareth seniors were compared to norms established by 1886 seniors at the following 30 institutions that have used the same form of the Objective Test: Austin Peay State University, Bethel College, College of Notre Dame of Maryland, Davis and Elkins College, Doans College, Friends University, Illinois, Non-traditional Programs at Chicago State, Eastern Illinois, Governors State, Northeastern Illinois, and Western Illinois Universities campuses, Lincoln University, Marion College, Memphis State University, Moringside College, Mount St. Mary's College, Nebraska Wesleyan College, Ouachita Baptist University, Rochester Institute of Technology, St. Mary College (Kansas), St. Mary's College (MN), University of Iowa, University of Nebraska-Lincoln, University of Phoenix, University of Redlands, University of Rhode Island, University of Tennessee-Knoxville, Upsala College, Voorhees College and Westmont College.

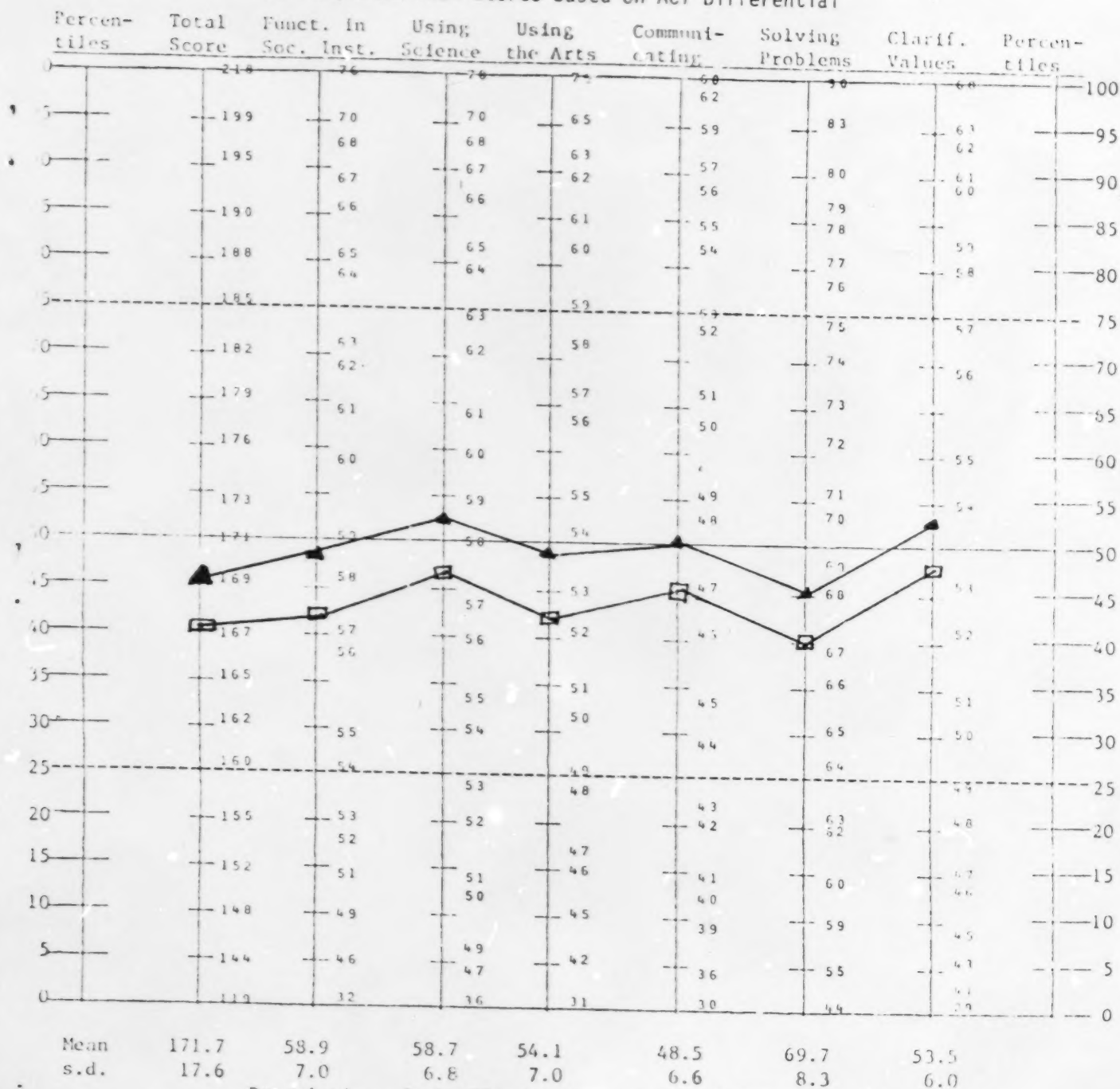
Figure 1 ACT COMP

Objective Test (Form III)

1980 Entering Freshmen Norms for 896 Freshmen at 12 Institutions

□ Mean Scores for 93 Nazareth College Freshmen (ACT Mean 18.1)

▲ Adjusted Mean Scores based on ACT Differential



Description of the 896 Freshmen in the 1980 Reference Group

36% Men

64% Women

Area of Interest

42% Social Sciences

34% Natural/Biol. Sciences

23% Arts/Humanities

Age Range

93% Age 19 or below

4% Age 20-22

3% Age 23 or above

Act Composite (or equivalent for SAT Total) scores available for 662 students. Mean 19.8

Median range 19-21

ACT Composite Range

3% below 10 16% 25-27

9% 10-12 7% 28-30

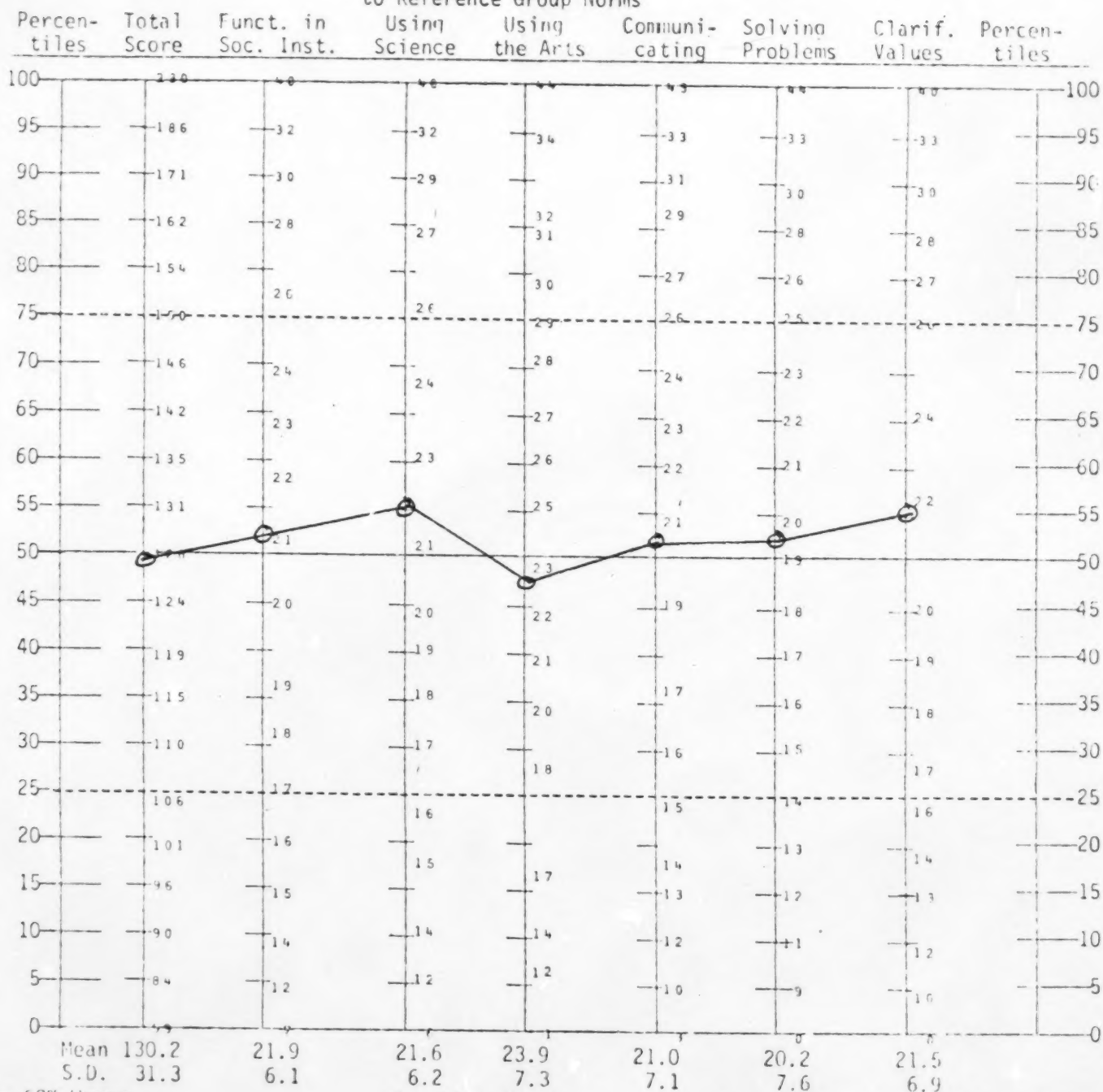
13% 13-15 2% over 30

15% 16-18

19% 19-21

17% 22-24

Figure 2
COMP/ACT Activity Inventory
Means For 93 Nazareth College Freshmen in Relation
to Reference Group Norms



62% Women

38% Men

Area of Interest

8% Social Sciences

13% Natural Sciences

5% Arts/Humanities

74% Missing

Age Distribution

1% age 17

40% age 18

59% age 19

Ethnic Representation

78% White

10% Black

4% Other Minorities

8% Missing

ACT Composite Range (or equivalent for SAT Total). Scores available for 95 students.

3% ACT 1-9

2% ACT 10-12

12% ACT 13-15

12% ACT 16-18

17% ACT 19-21

21% ACT 22-24

34% ACT 25-36

Since the Nazareth seniors were also somewhat lower in entering level ability as measured by the mean ACT Composite score (19.9 compared to 22.0) compared to the major reference group, it was again necessary for us to adjust the mean senior pattern on the Objective Test by eight (8) percentile points in order to make the sample comparable to the reference group (adjusted in accordance with recommendations in ACT COMP Report). Once this adjustment was made, the Nazareth senior sample compared favorably with college seniors generally in most areas assessed by the instrument. Figure 3 presents actual and adjusted scores for the senior Objective Test.

Figure 4 presents the Activity Inventory Scores of Nazareth seniors in comparison with a senior reference group. Consisting of 266 traditional age seniors from the following 11 institutions: Alverno College, Eastern Kentucky University, Iowa Wesleyan College, Maharishi International University, Michigan State University, U.S. Military Academy, University of California-Los Angeles, University of Minnesota, University of Missouri-Columbia, University of Wisconsin-Green Bay and Webster College. Except in the areas of Communicating and Solving Problems, Nazareth seniors compare quite favorably to seniors in the reference group. Thus we can conclude that Nazareth seniors demonstrate average exit-level abilities in the six (6) general education outcomes measured by the study.

Research Question #2:

What amount of growth may be anticipated to occur as a consequence of the college program?

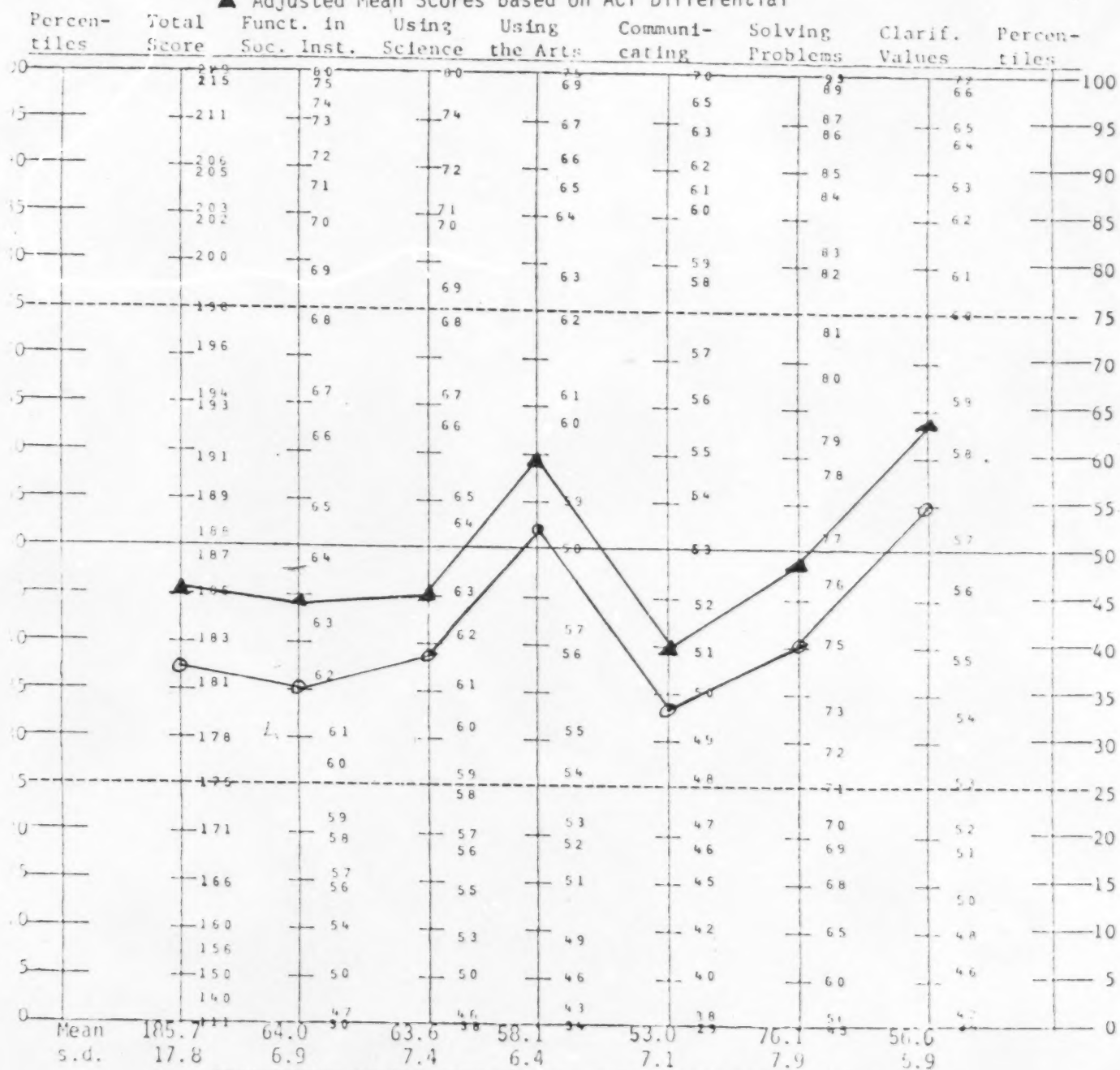
In order to measure potential growth in terms of general education outcomes, comparisons were made between the scores of the Nazareth freshmen and senior samples on both the ACT COMP Objective Test and the Activity Inventory. Extensive testing of these two instruments conducted by ACT in conjunction with over one hundred colleges and universities revealed that student performance on the Objective Test appears to be related to the educational programs of the participating institutions and unrelated to simple maturation. In addition the COMP Examination appears to measure abilities not measured by college grades or content-specific tests, which are abilities relevant to functioning effectively in adult roles (COMP Summary Report of Research and Development). Given this information about the instruments used, the Task Force felt that if the senior and freshmen groups were comparable in entering achievement, the data generated by the study would clearly suggest the amount of growth which might occur in freshmen over a four-year period as a consequence of our educational program.

Figure 3
COMP/ACT Objective Test (Form III)

1980 Senior Norms For 1886 Seniors at 30 Institutions

○ Mean Scores for 25 Nazareth College Seniors (ACT Mean 19.9)

▲ Adjusted Mean Scores based on ACT Differential



DESCRIPTION OF THE 1886 SENIORS IN THE 1980 REFERENCE GROUP

Area of Interest

4% Social Science

7% Natural/Biol. Sciences

19% Arts/Humanities

Ethnic Representation

2% Black

5% Am. Indian

1% White

2% Other

50% Men

50% Women

Age Range

65% Age 20-22

24% Age 23-30

11% Age 31 or above

ACT Composite (or equivalent

for SAT Total) scores available

for 1248 students.

Median range 22-24

Mean 22.0

ACT Composite Range

2% below 10

5% ACT 10-12

9% ACT 13-15

10% ACT 16-18

16% ACT 19-21

21% ACT 22-24

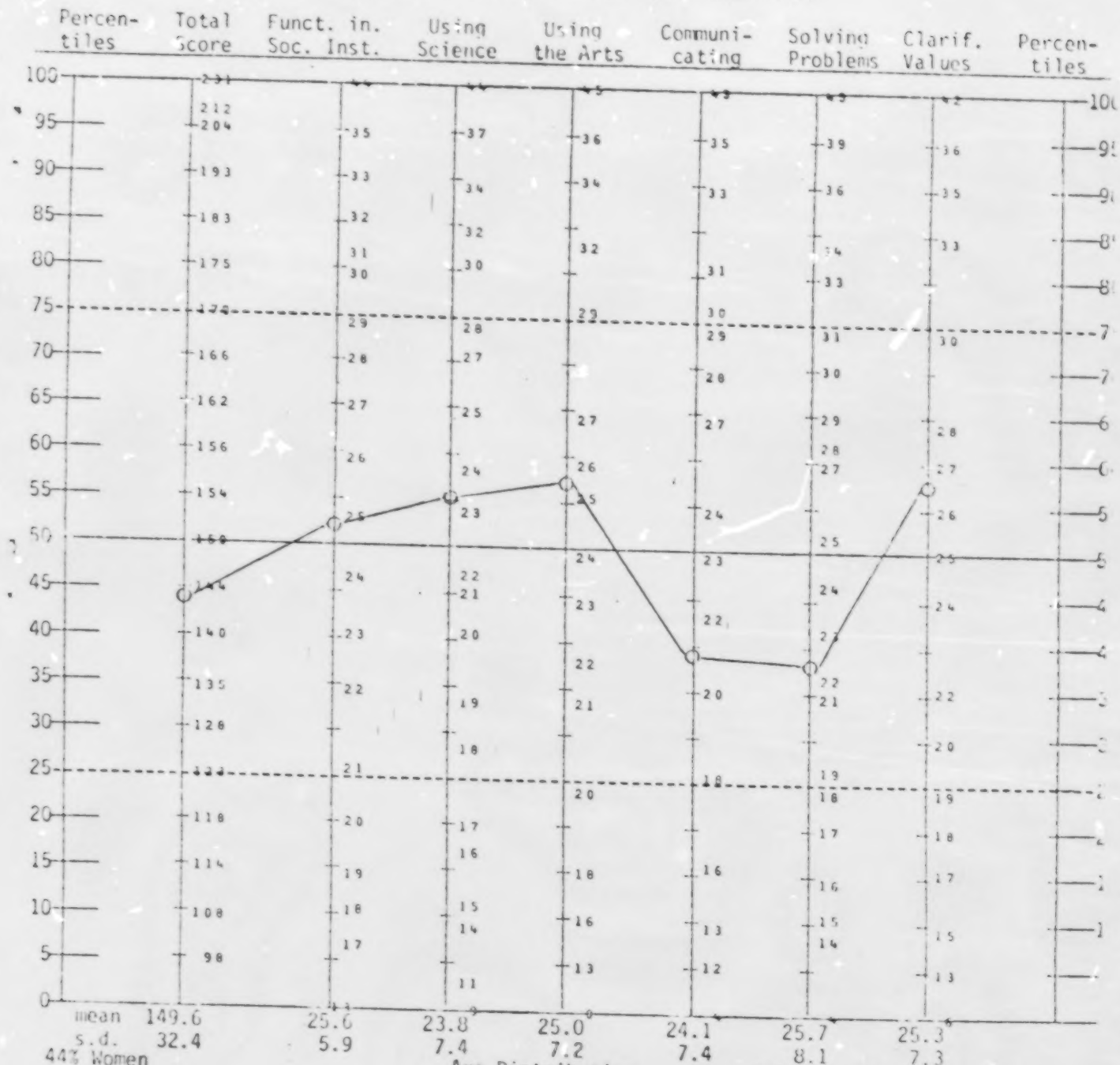
21% ACT 25-27

14% ACT 28-30

2% over 30

Figure 4
COMP/ACT Activity Inventory

Plotted on Norms For 266 Seniors at 11 Institutions
● Means For 25 Nazareth College Seniors (ACT Mean-19.9)



mean 149.6
s.d. 32.4
44% Women
56% Men
Area of Interest
15% Social Sciences
44% Natural Sciences
8% Arts/Humanities
33% Missing

Age Distribution
22% age 20
8% age 21
54% age 22
16% age 23
Ethnic Representation
92% White
5% Black
3% Other Minorities

ACT Composite Range (or equivalent for SAT Total)
Scores available for 156 students
1% ACT 10-12
3% ACT 13-15
13% ACT 16-18
12% ACT 19-21
12% ACT 22-24
60% ACT 25-36

Since the mean ACT composite score for the seniors (19.9) was within one standard deviation of the freshmen mean (18.0), it was concluded that the freshmen and senior samples were roughly comparable groups in entering achievement.

Figure 5 presents both freshmen and senior norms on the Objective Test based on Nazareth College freshmen normative data. Note that the "average senior" scored almost 35 percentile points higher than the "average freshmen" in terms of total score. Greatest gains occurred in Solving Problems, with a percentile gain of 40 points from freshmen to senior year. In addition, a gain of 25 percentile points occurred in Clarifying Values and Using the Arts. Least growth was indicated in Communicating and Using Science and Technology.

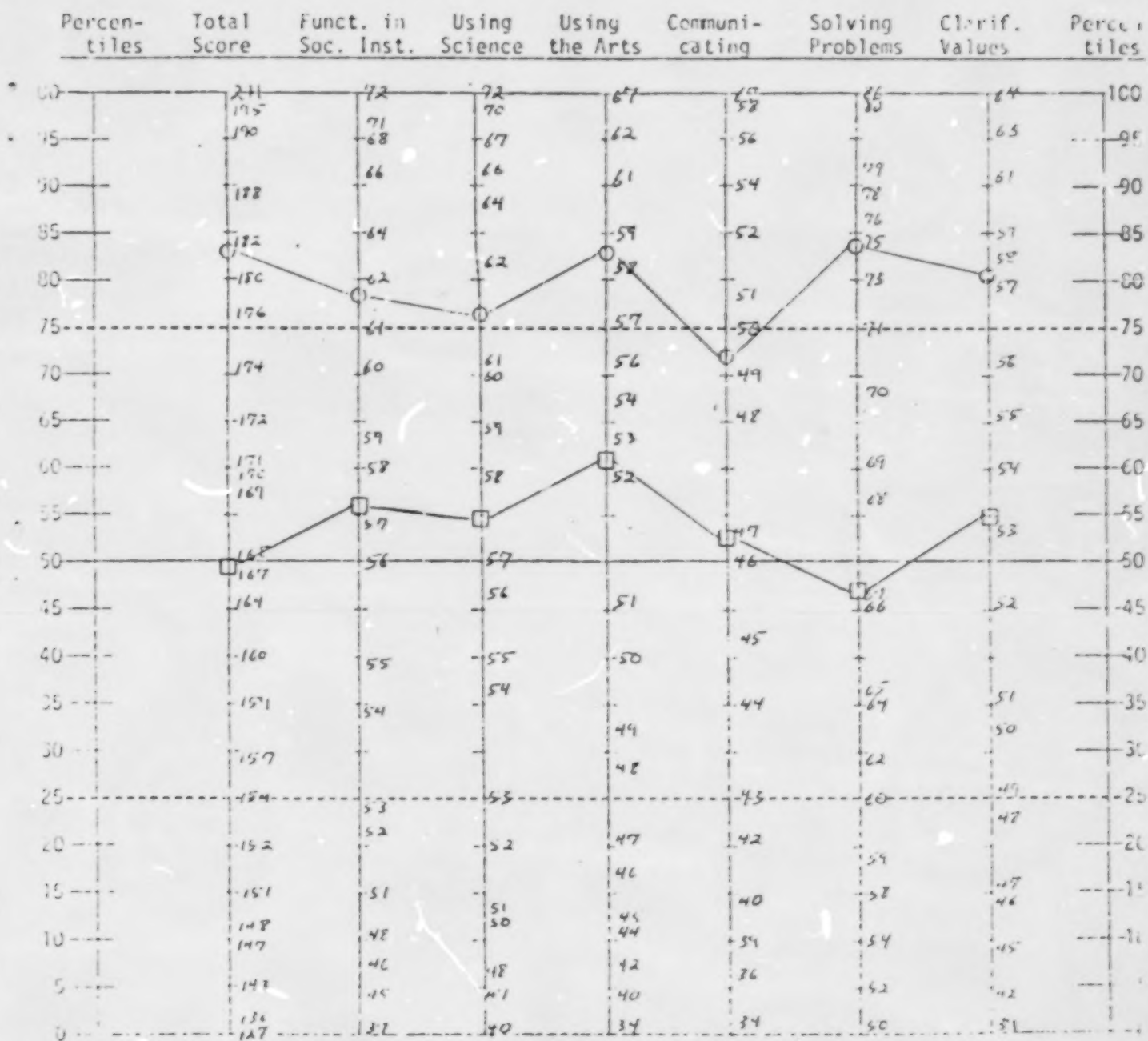
The growth measured by the Activity Inventory is presented in Figure 6. Again, greatest gains occurred in Clarifying Values and Solving Problems with additional significant growth occurring in Functioning within Social Institutions. Least growth occurred in Communicating and Using Science and Technology.

Additional Data

1. Nursing Senior Comparisons

Figure 7 displays Objective Test mean scores for samples of nursing seniors at the following institutions with generic nursing programs (6 including Nazareth): Iowa Wesleyan College, Marion College, Morningside College, Mount St. Mary's College and University of Tennessee-Knoxville. Since all but one of these institutions were small private liberal arts colleges and since our senior sample was largely from the nursing area, this data is of additional interest. Since our senior sample was not directly comparable to the reference group in entering achievement, the ACT analyst made appropriate adjustments to the senior objective test means. The dashed line in the figure indicates the estimated profile once adjustment has been made for entering achievement. Since the total nursing sample is small, it is not appropriate to make broad generalizations from this data. However, the data suggest that the Nursing seniors at Nazareth are close to the mean for this reference group (within one standard deviation).

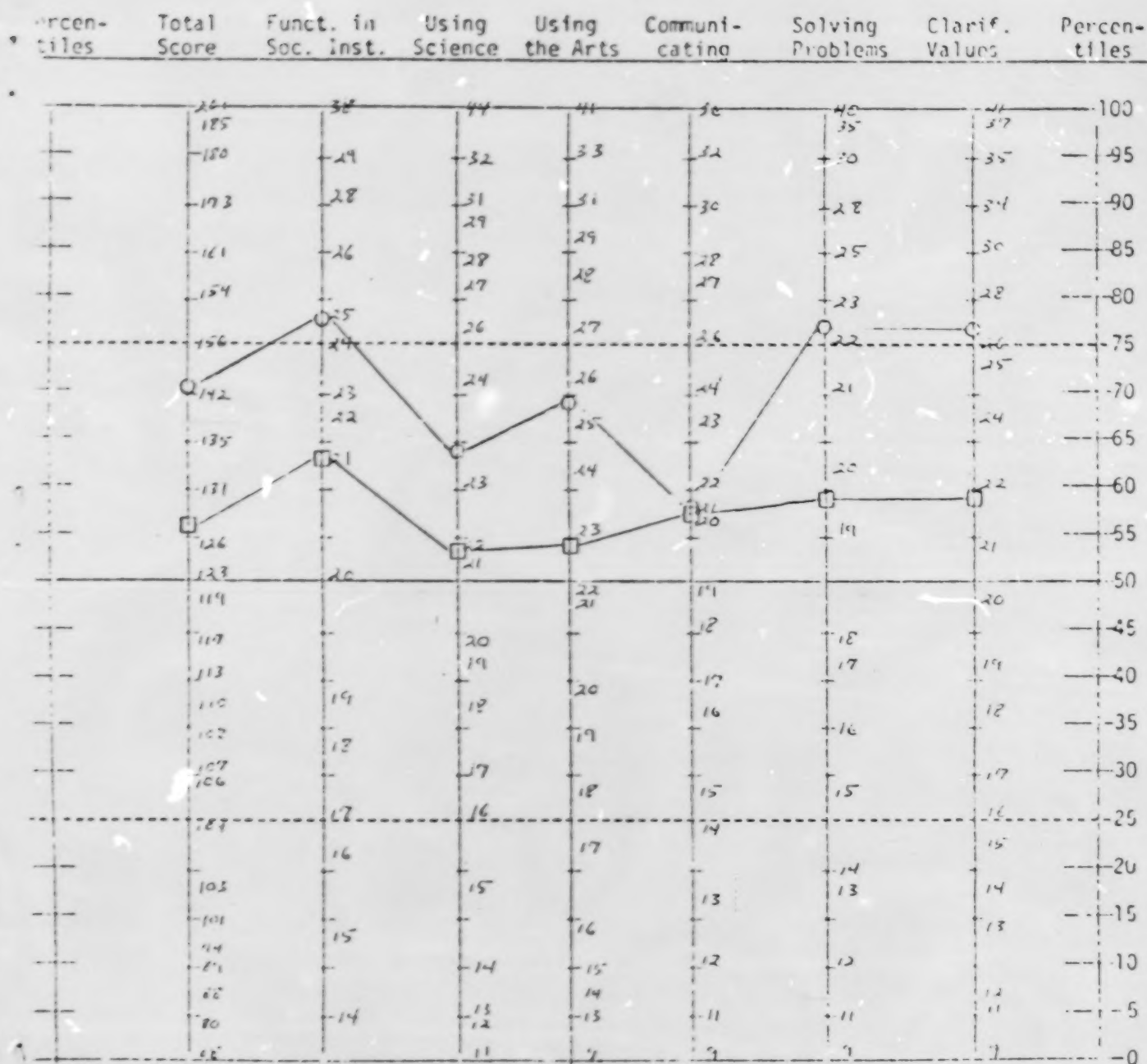
Figure 5
COMP/ACT Objective Test (Form III)
Comparison Groups: 93 Nazareth College Freshmen



O = Means for 25 NC Seniors (ACT mean = 19.9)

□ = Means for 93 NC Freshmen (ACT mean = 18.1)

Figure 6
COMP/ACT Activity Inventory (Form II)
Comparison Group: 93 Nazareth College Freshmen



○ = Means for 25 NC Seniors (ACT mean = 19.1)
□ = Means for 93 NC Freshmen (ACT mean = 18.1)

Figure 7

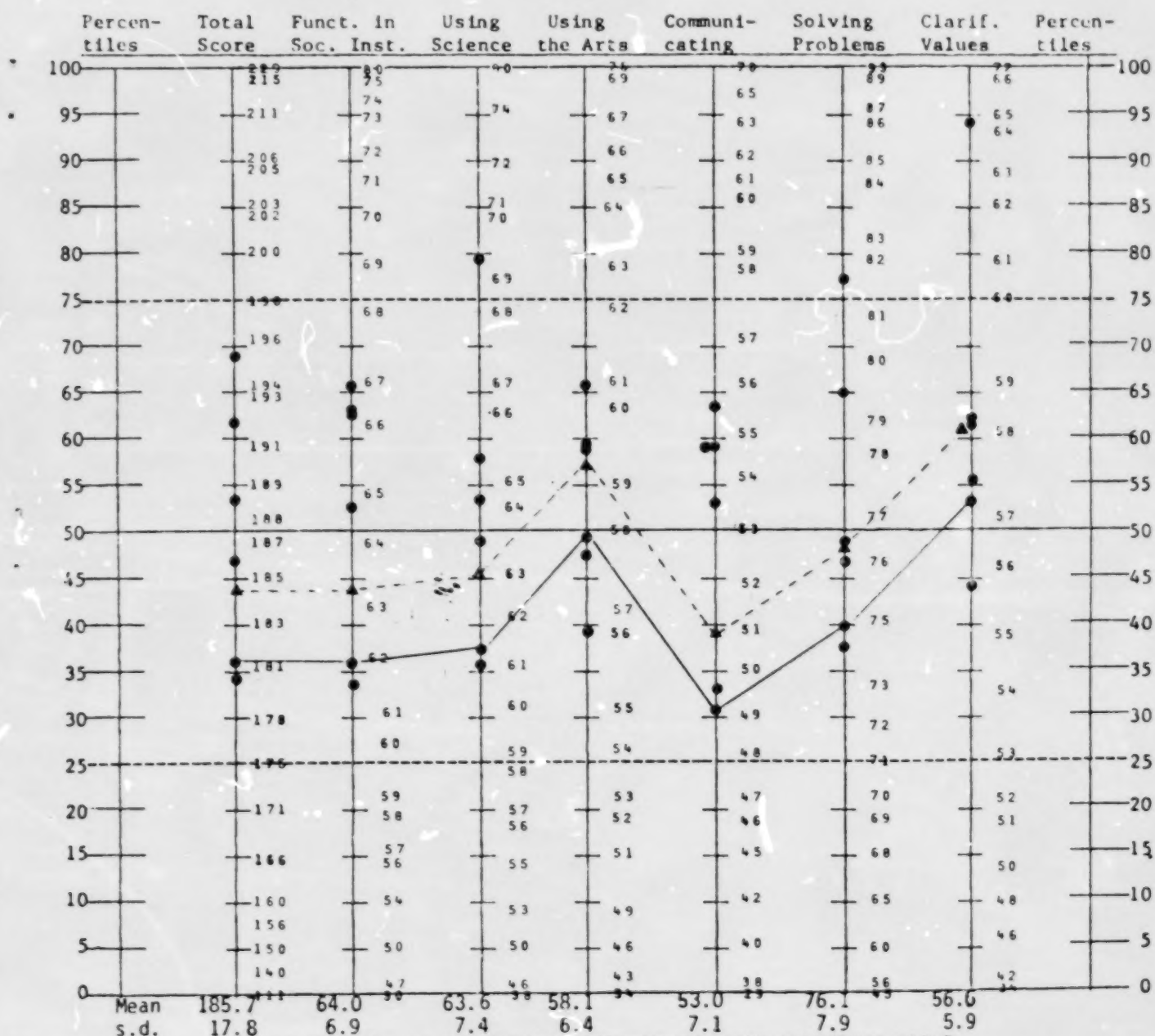
Sample Means for the GMP Objective Test (Form III)
Plotted on a Percentile Table for 1886 Seniors at 30 Institutions

- 15 -

Key: ● = Mean scores for samples of Nursing Seniors at 6 institutions
(Total number of seniors sampled = 185)

— = Profile for NC sample of 23 Nursing Seniors (ACT mean = 19.7)

▲ -- = Estimated profile, adjusting for entering level of achievement



DESCRIPTION OF THE 1886 SENIORS IN THE 1980 REFERENCE GROUP

Area of Interest

54% Social Science

27% Natural/Biol. Sciences

19% Arts/Humanities

Ethnic Representation

22% Black

5% Am. Indian

71% White

2% Other

50% Men

50% Women

Age Range

65% Age 20-22

24% Age 23-30

11% Age 31 or above

ACT Composite (or equivalent
for SAT Total) scores available
for 1248 students.

Median range 22-24

Mean 22.0

ACT Composite Range

2% below 10

5% ACT 10-12

9% ACT 13-15

10% ACT 16-18

16% ACT 19-21

21% ACT 22-24

21% ACT 25-27

14% ACT 28-30

2% over 30

2. Comparison with Sample of 42 Institutions

Forty two institutions which tested 30 or more seniors with either Form II or III of the Composite Examination or Objective Test are listed below:

Andrews University, Austin Peay State University, Bethel College, College of Notre Dame of Maryland, Davis and Elkins College, Doane College, Eastern Kentucky University, Iowa Wesleyan College, Lincoln University, Maharshi International University, Marion College, Memphis State University, Michigan State University, Mississippi State University, Mount St. Mary's College, Nebraska Wesleyan College, Oklahoma City University, Ouachita Baptist University, Our Lady of the Lake University, Rochester Institute of Technology, St. Mary College (Kansas) State University of New York-Genesee, Tennessee State University, Tennessee Technological University, University of Connecticut, University of Illinois at Champaign-Urbana, U.S. Military Academy, University of Iowa, University of Minnesota, University of Missouri-Columbia, University of Nebraska-Lincoln, University of Phoenix, University of Redlands, University of Rhode Island, University of Tennessee-Knoxville and Martin, Upsala College, Valley City State College, Voorhees College, Webster College, Westmont College and Illinois Non-Traditional Programs at Chicago State, Eastern Illinois, Governors State, Northeastern Illinois and Western Illinois Universities.

Figure 8 presents the scattergram of mean senior scores from this sample, with the Nazareth senior sample identified by the solid line.

This data is difficult to interpret since participating institutions may not have obtained representative samples of their seniors and samples vary in entering levels of achievement.

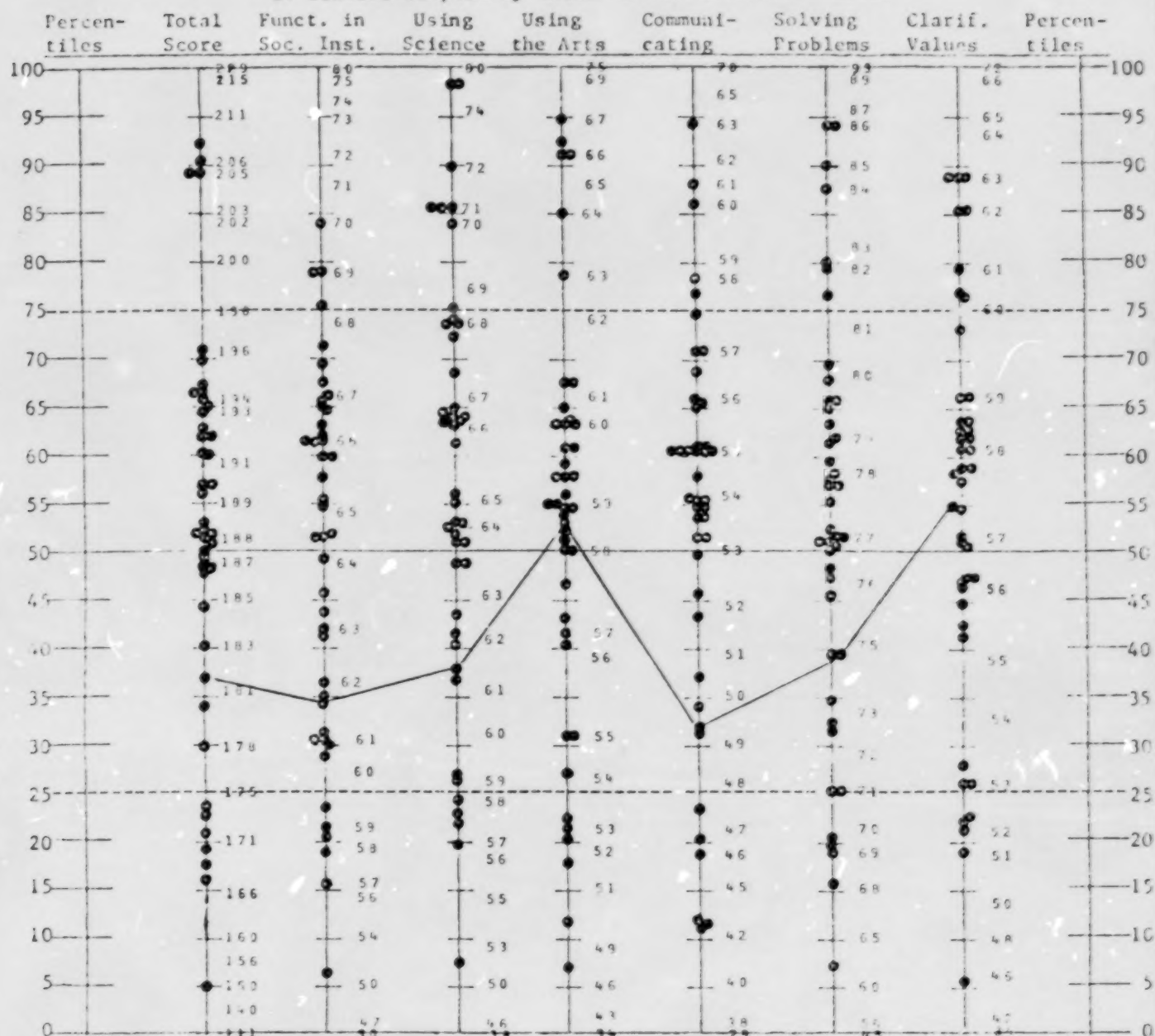
3. Private Institutions Comparison

Twenty-three Private Institutions used either the ACT Composite or Objective Test and form an additional norm group. These institutions are: Andrews University, Bethel College, Bryan College, College of Notre Dame of Maryland, Davis and Elkins College, Doane College, Iowa Wesleyan College, Maharishi International University, Marion College, Morningside College, Mount St. Mary's College, Nebraska Wesleyan College, Oklahoma City University, Ouachita Baptist University, Our Lady of the Lake University, Rochester Institute of Technology, St. Mary College, University of Phoenix, University of Redlands, Upsala College, Voorhees College, Webster College and Westmont College. Figure 9 shows the scattergram of senior means, the actual Nazareth College senior mean and the adjusted Nazareth mean. Once again, once adjustments are made for entering level abilities, Nazareth seniors compare quite favorably to seniors at other private institutions.

Figure 8

Senior Sample Means for 42 Institutions that tested 30 OR MORE USING FORM II OR III OF THE COMPOSITE EXAMINATION OR OBJECTIVE TEST

(See back of table for a list of the institutions included. Total number of seniors sampled by these 42 institutions: 3646)



Senior sample means were equated and plotted on the 1980 Senior Reference Group percentile table for the Objective Test Form III. Shown below is a description of the 1886 seniors from 30 institutions in this reference group:

Area of Interest

54% Social Science
27% Natural/Biol. Sciences
19% Arts/Humanities
Ethnic Representation
22% Black
5% Am. Indian
71% White
2% Other

50% Men

50% Women

Age Range

65% Age 20-22

24% Age 23-30

11% Age 31 or above

ACT Composite (or equivalent for SAT Total) scores available for 1248 students.

Median range 22-24 **19** Mean 22.0

ACT Composite Range

2% below 10

5% ACT 10-12

9% ACT 13-15

10% ACT 16-18

16% ACT 19-21

21% ACT 22-24

21% ACT 25-27

14% ACT 28-30

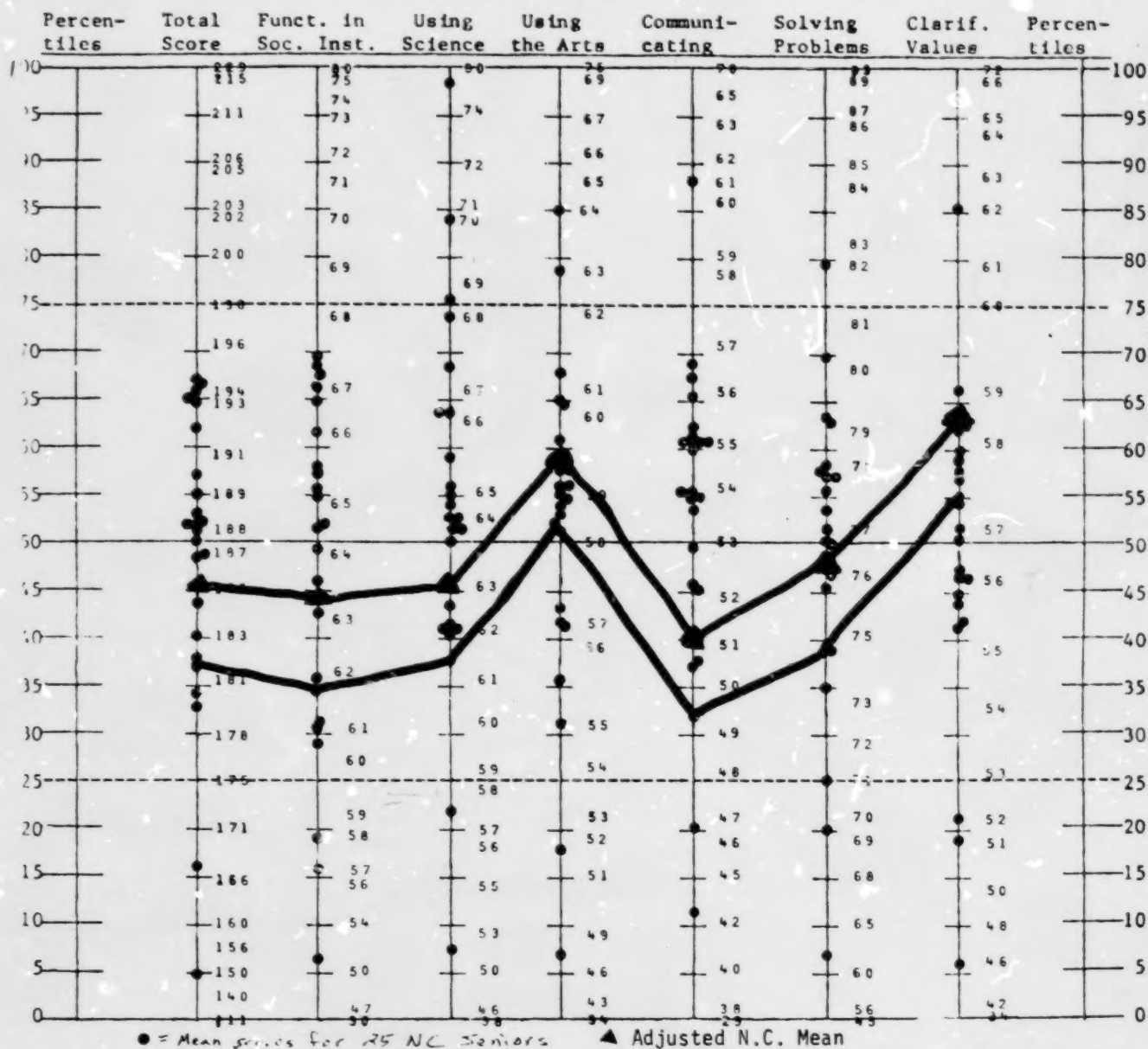
2% over 30

Senior Sample Means for 23 Private Institutions that tested
30 or More Seniors Using Forms II, III or IV of the
COMP COMPOSITE EXAMINATION OR OBJECTIVE TEST

- 18 -

Table 9

(See back of table for a list of the institutions included. Total number
of seniors sampled by these 23 institutions: 2017)



Senior sample means were equated and plotted on the 1980 Senior Reference Group percentile table for the Objective Test Form II. Shown below is a description of the 1886 seniors from 30 institutions in this reference group:

Area of Interest
54% Social Science
27% Natural/Biol. Sciences
19% Arts/Humanities
Ethnic Representation
22% Black
5% Am. Indian
71% White
2% Other

50% Men
50% Women
Age Range
65% Age 20-22
24% Age 23-30
11% Age 31 or above
ACT Composite (or equivalent
for SAT Total) scores available
for 1248 students.
Median range 22-24 Mean 22.0

ACT Composite Range
2% below 10
5% ACT 10-12
9% ACT 13-15
10% ACT 16-18
16% ACT 19-21
21% ACT 22-24
21% ACT 25-27
14% ACT 28-30
2% over 30

4. Activity Inventory-Successful Functioning Comparisons

An interesting question frequently raised when reviewing mean scores on the Activity Inventory is how do the activity levels indicated by college students compare with those of successfully functioning, adult, professionals. Table 1 shows the mean scores for six groups for comparative purposes. Group "a" scores belong to faculty at one highly selective college and group "b" scores are those of selected graduates who were designated as "successful" by the institution from which they received their degree. Figure 10 shows the scores of Nazareth seniors compared to these two groups. Since these reference groups could certainly represent "goals" for most college students, it is interesting to note that Nazareth seniors scored quite close to the mean for successful graduates in Using Science, and slightly above the faculty mean for Using the Arts.

DISCUSSION

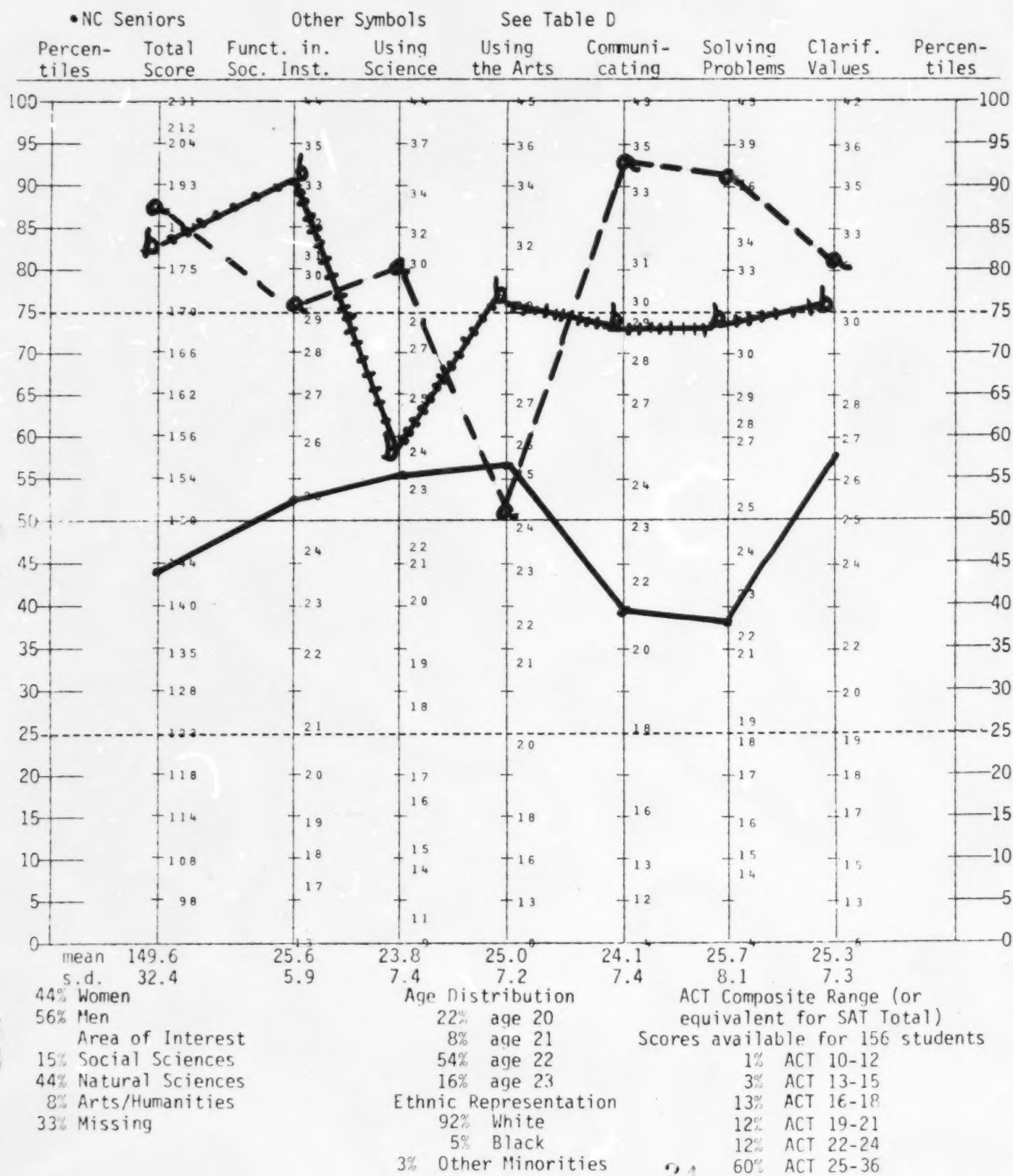
When utilizing comparative data, it is very important to assess the applicability of the norms used. The basic freshmen and senior data which compared Nazareth students to a norm generated by students utilizing the same form and type of ACT COMP instrument should therefore be examined in light of the types of institutions and student profiles which constituted the normative group. The norm for the freshmen Objective Test included 6 small, private colleges similar to Nazareth and therefore offers an excellent basis of comparison. The Freshmen Activity Inventory normative group included only (3) three institutions similar to Nazareth College. The Senior Objective Test normative group represented a wide variety of institutions with almost 50% of the institutions closely resembling Nazareth College. The Senior Activity Inventory normative group again contained only three (3) institutions similar to Nazareth. This becomes very problematic in interpreting the results. In addition, even apparently similar institutions may not have obtained representative samples of their students due to their own specific research designs, thus further compounding the interpretive problem. Data which compares Nazareth students to samples of students who took a different form of the Objective Test or the Composite Examination is almost impossible to interpret with any degree of confidence.

Table 2

Mean Activity Inventory Scores

	<u>Total</u>	<u>FSI</u>	<u>UST</u>	<u>UA</u>	<u>COM</u>	<u>SP</u>	<u>CV</u>
a) Faculty at one highly selective institution N=72	187.0	29.9	30.0	24.6	34.0	36.4	32.1
b) Effectively Functioning Graduates of one institution N=104	181.4	33.3	24.0	29.9	29.4	34.1	30.6
c) Adults who received credit by a portfolio process N=150 at 9 inst.	176.7	30.9	26.0	27.0	28.7	32.9	31.2
d) Older Seniors (age 24 or above) N=152 at 12 inst.	161.9	27.2	25.5	26.6	25.1	28.9	28.6
e) Traditional Age Seniors (age 20-23) N=266 at 12 inst.	149.6	25.6	23.8	25.0	24.1	25.7	25.3
f) Traditional Age Freshmen (age 19 or below) N=411 at 12 inst.	130.2	21.9	21.6	23.9	21.0	20.2	21.5

Reference Group Norms for 266 Traditional Age Seniors (Age 20-23) at 11 Institutions
COMP/ACT ACTIVITY INVENTORY
Figure 10



What constitutes a reasonable amount of growth in general education outcomes as a consequence of four (4) years of a college program is indeed an important but difficult question to address. The COMP instruments are helpful since the research conducted by ACT indicates that scores are not age-dependant and do relate in some measure to the type of programs students have completed in the college setting. When ACT has had additional experience with these instruments and growth norms can be established for various types of institutions it will be a lot easier to address this important question. In the meantime, each sector of the college needs to examine the outcomes identified, the correlation between these outcomes and their own goals and objectives, and assess their own degree of satisfaction with the results available to date.

CONCLUSIONS

The results of the ACT COMP testing of Nazareth freshmen and seniors indicate that:

1. Nazareth freshmen are slightly lower in entrance level ability than freshmen in the norm group, but, none-the-less, score close to the normative mean in all areas measured by the study. Nazareth freshmen are, therefore, average in their entering level abilities in the general education outcomes measured.
2. Nazareth seniors were also somewhat lower in entrance level ability than the senior norm group; however, in all areas except communicating and solving problems, Nazareth seniors compare quite favorably to the senior reference group.
3. Significant growth in general education occurs between freshmen and seniors who remain at Nazareth four years with the "average senior" scoring almost 35 percentile points higher than the "average freshman" in total score. Greatest gains occur in Solving Problems, Clarifying Values and Using the Arts. Least growth occurs in Communicating and Using Science and Technology.
4. The Activity Inventory Scores of seniors when compared to two "successful" groups of adults indicate both reasonable achievement plus the room for growth that additional experience would suggest.
5. Considering all available data, Nazareth College appears to be doing a satisfactory job in terms of the general education components of the curriculum.

RECOMMENDATIONS

The research team recommends that appropriate faculty groups study the data in detail in order to determine if we, as a college, are satisfied with the growth levels indicated and to determine ways in which we can increase potential student growth particularly in the areas of Communicating and Using Science and Technology. Examination of certain differences between McGrail and Pre-McGrail alumni might offer some suggestions for potential curricular/instructional changes which might positively influence student growth.

In addition, detailed examination of each component of the ACT COMP instruments may suggest whether or not it would be appropriate for the college to utilize these instruments, at least in part, as a means of demonstrating the exit-level general education competencies required for graduation.